Conduct of Operations Applicability Matrix for CMELS Moderate Hazard Facilities at LLNL Site 300

H. R. Gregg

April 22, 2008

LAWRENCE
LIVERMORE
NATIONAL
LABORATORY

Disclaimer

This document was prepared as an account of work sponsored by an agency of the United States government. Neither the United States government nor Lawrence Livermore National Security, LLC, nor any of their employees makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States government or Lawrence Livermore National Security, LLC. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States government or Lawrence Livermore National Security, LLC, and shall not be used for advertising or product endorsement purposes.

Conduct of Operations Applicability Matrix for CMELS Moderate Hazard Facilities at LLNL Site 300

May 1, 2008

This Matrix applies to the following facilities:

CMELS Site 300 Facilities (Buildings 805, 806A-D, 807, 809A-C, 810A-C, 813, 817A-H, 821, 823A-B, 825, 826, 827A-E, 828A-C, 845A-B, 855A-C; OS858; Magazines 2, 3, 4, 5, 10, 15, 33, 36, 51, 58, 816)

Conduct of Operations Applicability Matrix
CMELS Site 300

May 1, 2008

This Matrix applies to the following facilities:

CMELS Site 300 Facilities (Buildings 805, 806A-D, 807, 809A-C, 810A-C, 813, 817A-H, 821, 823A-B, 825, 826, 827A-E, 828A-C, 845A-B, 855A-C; OS858; Magazines 2, 3, 4, 5, 10, 15, 33, 36, 51, 816)

Matrix table based on the LLNL Environment Safety & Health Manual Document 3.5, *Conduct of Operations for LLNL Facilities*

_____

Prepared by Hugh Gregg, Site 300 Facility Manager, CMELS

_____

Approved by Lori Souza, Deputy AD, Operations, CMELS

_____

NNSA/LSO Approval

This document has been reviewed and verified not to contain classified information.

ADC_____

Conduct of Operations Applicability Matrix

The following table documents applicability of the Conduct of Operations elements per ES&H Manual Document 3.5, *Conduct of Operations for LLNL Facilities,* to operations in LLNL facilities. Applicable implementing documents, processes, and programs are listed.

ES&H MANUAL DOCUMENT 3.5 SECTION	REQUISITES FOR SECTION ELEMENTS	APPLICABLE YES/NO	RESPONSIBILITY FOR COMPLIANCE FMC/PMC[1]	COMMENTS AND/OR REFERENCE FOR VERIFICATION OF COMPLIANCE
OPERATIONS ORGANIZATION ADMINISTRATION SECTION 1.0				
1.2.1 Operations Policies	a) Operating policies and procedures should be defined (e.g., FSPs, IWS, IWS/SPs, Work Procedures, Standard Operating Procedures [SOPs]) including responsibilities for implementation.	Yes	FMC/PMC	LLNL *ES&H Manual* Documents 2.1 & 2.2 CMLS-330 *ISMS Implementation Plan* S300.8 *FSP for CMELS Site 300 Facility* FSP 858 *FSP for Forensic Receival Facility*
1.2.2. Resources	a) A long-range staffing plan that anticipates personnel losses should be developed and implemented for key positions that require special training/ qualification, certificates and/or licenses.	No	NA	Facilities don't contain operations or equipment that could result in significant impact to ES&H or programs. Many of the operations do require training and qualifications (HE handler, Crane certification, etc), however there are no Key Positions identified that require a long-range staffing plan.
	b) Staffing levels should comply with the level of ES&H support specified in resource planning documents.	Yes	FMC/PMC	CMLS-330 and *ES&H Manual* Document 2.1 defines the role of the Authorizing Organization to allocate sufficient resources to ensure safe, efficient, and compliant operations. CMLS-330 defines the roles of the CMELS DAD/Ops to oversee and manage operations. The AD Resource Manager ensures ES&H needs are incorporated into budgets and resource planning.

---

[1] Facility Management Chain/Program Management Chain

Conduct of Operations Applicability Matrix

ES&H MANUAL DOCUMENT 3.5 SECTION	REQUISITES FOR SECTION ELEMENTS	APPLICABLE YES/NO	RESPONSIBILITY FOR COMPLIANCE FMC/PMC[1]	COMMENTS AND/OR REFERENCE FOR VERIFICATION OF COMPLIANCE
	c) Define organizational responsibilities for both programmatic and support organization personnel.	Yes	FMC/PMC	CMLS-330 (*Integrated Safety Management System* [*ISMS*]) and *ES&H Manual* Document 2.1 (*General Worker Responsibilities and Integrated Safety Management*) describes organizational responsibilities for programmatic and support organizations. This and most CMELS documents cited in this worksheet can be found at the following URL: http://sodium.llnl.gov/cmels/?url=library-policies_and_procedures CMELS Organization Charts: http://sodium.llnl.gov/cmels/?url=library-organizations CMELS Site 300 Facilities and Contacts http://cmsonly.llnl.gov/Facilities/site300faclist.html
	d) Identify the individual responsible for implementing the ES&H controls in the FSP or IWS/SP.	Yes	FMC	CMLS-330 and *ES&H Manual* Document 2.1 defines roles, responsibilities, and authorities. Responsibilities by role are also defined in CMELS Facility Safety Plans (FSPs). For IWS/SPs the responsible individuals are specifically named.
1.2.3. Monitoring of Operating Performance	a) Operating and safety goals should be established.	Yes	FMC/PMC	CMELS-330 establishes commitments and metrics for meeting LLNL safety goals, performance measures, and the success of the ISMS. CMLS-330 assigns responsibility to the Authorizing Organization to define technical objectives of the work activity. Programmatic goals are defined by each program (in each Work request) and also in a broad sense in "LLNL Technical Strategic Plan for High Explosives Technology," (UCRL-ID-128722, Dec. 1997).
	b) Work supervisors or their designees should regularly observe important operational activities to identify and correct safety and operating deficiencies.	Yes	FMC/PMC	CMLS-305 (*ES&H Self-Assessment Plan*) specifies schedules and requirements for self-assessments. CMELS senior management, Division management, and Work Supervisors routinely observe operations in walk-arounds. ES&H Manual, Document 2.1, General Worker Responsibilities and Integrated Safety Management

Conduct of Operations Applicability Matrix

ES&H MANUAL DOCUMENT 3.5 SECTION	REQUISITES FOR SECTION ELEMENTS	APPLICABLE YES/NO	RESPONSIBILITY FOR COMPLIANCE FMC/PMC[1]	COMMENTS AND/OR REFERENCE FOR VERIFICATION OF COMPLIANCE
	c) Document and evaluate operating problems and develop corrective actions to improve performance.	Yes	FMC/PMC	CMS-331 (*Accident/Injury Prevention Program*) defines provisions for reviewing/analyzing safety data within the Directorate. CMLS-305 defines provisions for rolling up data to the Institutional level for trending. The CMELS Assurance Office also conducts an annual assessment, which reports on trends within the directorate.
1.2.4. Accountability	a) Written performance appraisals should provide feedback to workers about their safety and job performance.	Yes	FMC/PMC	CMLS-330 establishes requirements to ensure safety accountability is part of the performance appraisal process. CMLS-104 (*Performance Appraisal, Ranking, and Salary Policy*) requires that the Performance Appraisal include information on ES&H responsibilities and expectations, and that employees be appraised on the performance of those responsibilities.
	b) Formal performance appraisals should be provided at least annually and should document operational performance.	Yes	FMC/PMC	CMLS-330 establishes requirements to ensure safety accountability is part of the performance appraisal process. CMLS-104 (*Performance Appraisal, Ranking, and Salary Policy*) requires that the Performance Appraisal include information on ES&H responsibilities and expectations, and that employees be appraised on the performance of those responsibilities.
1.2.5. Management Training	a) Managers (NF/HHF/MHF) and work supervisors (ALL) should receive training in supervisory skills, ES&H issues specific to the facility, and facility operations in their area of responsibility.	Yes	FMC/PMC	CMLS-330 & *ES&H Manual* Document 2.1 establish Authorizing Organization/Individual responsibilities to include designating an appropriate RI and to provide support to that RI and to ensure that individuals conducting the work possess the necessary skills, knowledge, and abilities (SKA). CMLS-330 assigns training responsibilities to the CMELS DAD/Ops to manage the CMELS Training Program and assigns responsibilities to Payroll Supervisors to develop personnel skills to ensure necessary SKAs. The Payroll Supervisors also ensure accuracy of the LTRAIN Questionnaire to develop LTRAIN profiles to identify Institutional and Organizational Training Requirements for managers and supervisors, and use LTRAIN to track completion of those courses.

Conduct of Operations Applicability Matrix

ES&H MANUAL DOCUMENT 3.5 SECTION	REQUISITES FOR SECTION ELEMENTS	APPLICABLE YES/NO	RESPONSIBILITY FOR COMPLIANCE FMC/PMC[1]	COMMENTS AND/OR REFERENCE FOR VERIFICATION OF COMPLIANCE
1.2.6. Planning for Safety	a) Safety preplanning and review process for routine work and new processes or experiments should be documented.	Yes	FMC/PMC	CMLS-330 and *ES&H Manual* Document 2.1 establishes the Integration Work Sheet (IWS) process to review new work activities not commonly performed by the public and to set requirements to ensure operations are within the safety basis envelope of each facility. ES&H Manual, Document 2.1, General Worker Responsibilities and Integrated Safety Management
SHIFT ROUTINES AND OPERATING PRACTICES SECTION 2.0				
2.2.1. Status Practices	a) Responsible operators/workers should be promptly notified of changes in equipment or system status.	Yes	FMC/PMC	CMELS S300 facilities do not utilize multiple shifts. Equipment or systems for which prompt notification of status change is required are identified in FSPs and IWSs. The methods of notification are defined in these documents.
	b) Operators/workers should be instructed to promptly notify the facility and/or program management chain (as appropriate) of abnormalities; abnormal, unusual or emergency events; changes in operational status; significant changes in schedules; and difficulties encountered in performing tasks.	Yes	FMC/PMC	CMLS-322 (*Occurrence Reporting Plan*) defines the occurrence reporting processes. CMLS-330 and the FSPs also refer to the processes defined in CMLS-322 (*Occurrence Reporting Plan*). CMLS-330 discusses CMELS emergency response plans and processes. FSPs also contain information on how to respond to emergencies. The *CMS Site 300 Facility Emergency Self-Help Plan* and attached *CMS Site 300 Employee Emergency Response Self-Help Guide*) (hard copies of this document are available in all CMELS Site 300 facilities) also provides guidance to employees on reporting unexpected events and unknowns.
2.2.2. Safety Practices	a) Develop safety plans.	Yes	FMC/PMC	CMLS-330 and *ES&H Manual* Document 3.3 (*Facility Safety Plans and Integration Work Sheets with Safety Plans*) implement the requirements to prepare FSPs and IWS/SPs. The FSPs for CMELS facilities also provide guidance for when IWS/SPs are required. ES&H Manual, Document 2.2, Managing ES&H for LLNL Work

Conduct of Operations Applicability Matrix

ES&H MANUAL DOCUMENT 3.5 SECTION	REQUISITES FOR SECTION ELEMENTS	APPLICABLE YES/NO	RESPONSIBILITY FOR COMPLIANCE FMC/PMC[1]	COMMENTS AND/OR REFERENCE FOR VERIFICATION OF COMPLIANCE
	b) Workers are trained to properly operate equipment and understand the safety plans.	Yes	FMC/PMC	CMLS-330 and *ES&H Manual* Document 2.1 directs the RI to ensure worker qualifications including an understanding of the FSP and IWS/SP.
				Facility management provides FSP briefings to Site 300 facility residents.
				OJT is provided for many of the pieces of equipment used during CMELS operations at Site 300.
				ES&H Manual, Document 40.2
				ES&H Manual, Document 22.1, Emergency Preparedness and Response
	c) Adhere to requirements in the Industrial safety program.	Yes	FMC	The Industrial Safety (IS) Program is documented in the IS Discipline Action Plans (DAP) maintained by ES&H Teams 4 (Site 300), which captures the requirements of the *ES&H Manual*.
				ES&H Manual, Documents 11.1, 11.2, 15.2, 16.1, 17.1, 18.1, 18.5, 22.4. and 42.1
	d) Adhere to requirements in the Health physics program.	Yes	FMC	The Health Physics (HP) Program is documented in the HP DAP maintained by ES&H Teams 4 (Site 300), which captures the requirements of the *ES&H Manual*.
				ES&H Manual, Document 20.1, Occupational Radiation Protection
	e) Adhere to requirements in the Industrial hygiene program.	Yes	FMC	The Industrial Hygiene (IH) Program is documented in the IH DAP maintained by ES&H Teams 4 (Site 300), which captures the requirements of the *ES&H Manual*.
				ES&H Manual, Documents 11.1, 11.2, 12.2, 13.1, and 14.1

Conduct of Operations Applicability Matrix

ES&H MANUAL DOCUMENT 3.5 SECTION	REQUISITES FOR SECTION ELEMENTS	APPLICABLE YES/NO	RESPONSIBILITY FOR COMPLIANCE FMC/PMC[1]	COMMENTS AND/OR REFERENCE FOR VERIFICATION OF COMPLIANCE
	f) Adhere to requirements in the Criticality safety program.	Yes	FMC	The Criticality Safety Program is documented in the Criticality DAP maintained by ES&H Team 4 (Site 300), which captures the requirements of the *ES&H Manual*. In addition, the Criticality Safety Section of the Hazards Control Department reviews activities involving the potential for nuclear criticality at the request the Health Physicist or Facility Management. ES&H Manual, Document 20.6, Criticality Safety
	g) Adhere to requirements in the Fire safety program.	Yes	FMC	The Fire Safety (FS) Program is documented in the Fire Protection DAP maintained by ES&H Teams 4 (Site 300), which captures the requirements of the *ES&H Manual*. ES&H Manual, Document 22.5, Fire
	h) Adhere to requirements in the Environmental protection program.	Yes	FMC	The Environmental Protection Program is documented in the Environmental Protection DAP maintained by ES&H Teams 4 (Site 300), which captures the requirements of the *ES&H Manual*. The electronic IWS system documents NEPA and other environmental reviews. More information regarding the environmental protection program can be found in Volume II of the ES&H Manual. ES&H Manual, Document 30.1
	i) Adhere to requirements in the ALARA program.	Yes	FMC/PMC	CMELS Site 300 facilities do not require a formal ALARA program in accordance with the LLNL *ES&H Manual* Document 20.4 (*LLNL Occupational Radiation Protection ALARA Program*) since individual occupational radiation doses in the facility are not likely to exceed 100mrem/year. However, CMELS FSPs stress ALARA goals, and CMLS-330 requires RIs to integrate ALARA philosophy into operations. ES&H Manual, Document 20.4
2.2.3. Operator Inspection Tours	a) Procedures for Operator/FC tours should follow the guidance in Section 2.2.3.	Yes	FMC	Daily shift tours are not utilized in these facilities due to the low anticipated consequences of delayed discovery of abnormal conditions.

Conduct of Operations Applicability Matrix

ES&H MANUAL DOCUMENT 3.5 SECTION	REQUISITES FOR SECTION ELEMENTS	APPLICABLE YES/NO	RESPONSIBILITY FOR COMPLIANCE FMC/PMC[1]	COMMENTS AND/OR REFERENCE FOR VERIFICATION OF COMPLIANCE
2.2.4. Round/Tour Inspection Sheets	a) Procedures for Round/Tour Inspection Sheets should follow the guidance in Section 2.2.4.	Yes	FMC	Daily shift tours are not utilized in these facilities due to the low anticipated consequences of delayed discovery of abnormal conditions.
2.2.5. Personnel Protection	a) In addition to the discussion in Section 2.2.2 (Safety Practices), applicable personnel training/qualification should include the guidance in Section 2.2.5.	Yes	FMC/PMC	Operations personnel are trained to understand and comply with all area postings for exposure warnings and PPE requirements.
	b) Supervisors should review exposure trends.	Yes	FMC/PMC	Document 20.4, "LLNL Occupational Radiation Protection ALARA Program," requires ES&H Team Health Physicists submittal of notable trends or ALARA issues to facility and program management when facilities have established ALARA goals.
2.2.6. Response to Indications	a) Response to Indications should follow the guidance in Section 2.2.6.	Yes	FMC/PMC	Response to abnormal indications are detailed in the IWSs and/or FSPs.
2.2.7. Resetting Protective Devices	a) Establish controls for resetting protective devices whose improper positioning/ operation could result in an impact to health, safety, the environment,	Yes	FMC/PMC	Protective devices (other than circuit breakers, GFCIs, and fuses) and the appropriate response to a trip condition are identified in applicable safety plans. Section 8.2 of ES&H Manual Document 16.1 "Electrical Safety Program" recommends supplemental training for workers who reset overcurrent protective devices.
2.2.8. Load Changes	a) Establish that load changes have been addressed.	No	N/A	This attribute is not applicable (i.e. these facilities do not perform load changes).

Conduct of Operations Applicability Matrix

ES&H MANUAL DOCUMENT 3.5 SECTION	REQUISITES FOR SECTION ELEMENTS	APPLICABLE YES/NO	RESPONSIBILITY FOR COMPLIANCE FMC/PMC[1]	COMMENTS AND/OR REFERENCE FOR VERIFICATION OF COMPLIANCE
2.2.9. Authority to Operate Equipment	a) Identify personnel authorized to operate facility equipment whose improper operation could result in an impact to health, safety, the environment,	Yes	FMC/PMC	The lead technicians for each area are the operations supervisor and are aware of all activities affecting equipment. This is documented in the FSP
2.2.10. Shift Operating Bases	a) Establish shift operating bases for each shift position.	Yes	FMC	Facilities don't contain operations or equipment that warrant designation of a shift operating base.
2.2.11. Potentially Distractive Written Material and Devices	a) Identify controls for Potentially Distractive Written Material and Devices.	Yes	FMC	Facilities don't contain operations or equipment that could result in significant impact to ES&H or programs that warrant these controls.
CONTROL AREA ACTIVITIES FOR DOE FACILITIES SECTION 3.0				
3.2.1. Control Area Access	a) Control rooms associated with systems, equipment or processes where operator error could result in significant impact to health, safety, the environment or to programs are identified and physically delineated	Yes	FMC/PMC	At Site 300, the entrances to all Control Rooms are clearly labeled as such. In addition, FSP S300.8 identifies control room activities and locations in sections 1, 3, 8, 9, 11, and Appendix A.
	b) Specify personnel who are authorized for access to control rooms	Yes	FMC/PMC	Only activities related to the operation or specifically authorized by management shall be authorized in the control room when the equipment or system is being operated. Section 3.2.2.2 of FSP S300.8 defines personnel and operational access controls for Site 300. CMLS-330 and the ES&H Manual 2.1.

Conduct of Operations Applicability Matrix

ES&H MANUAL DOCUMENT 3.5 SECTION	REQUISITES FOR SECTION ELEMENTS	APPLICABLE YES/NO	RESPONSIBILITY FOR COMPLIANCE FMC/PMC[1]	COMMENTS AND/OR REFERENCE FOR VERIFICATION OF COMPLIANCE
3.2.2. Professional behavior	a) Control room activities are limited to those essential for supporting operations.	Yes	FMC/PMC	At Site 300 area Supervisors, Lead Technicians, and PL ensure that only activities related to the operation or specifically authorized by management are authorized in the control room during activation. Potentially distracting activities are prohibited. Controls for behavior are set in the IWS, CMLS-330, FSPs and the ES&H Manual 2.1.
3.2.3. Monitoring the Main Control Panels	a) Responsible operators should understand their responsibility for monitoring control room panels, including timely response to alarm conditions.	Yes	FMC/PMC	At Site 300 control room remote operations utilize automatic interlock systems to provide immediate notification and to suspend further operations in the event of any critical systems malfunction. Additionally, abnormal operating parameters are continuously monitored at the control room console. More information is available in FSP 300.8.
3.2.4. Control Operator Ancillary Duties	a) Ancillary duties should not interfere with the operators' shift responsibilities.	Yes	FMC/PMC	Controls for ancillary duties are set in the IWS, CMLS-330, FSPs and the ES&H Manual 2.1.
3.2.5. Operation of Control Area Equipment	a) Only authorized personnel shall operate control area equipment.	Yes	FMC/PMC	Sections 3.2.2.2.6 and 3.2.2.2.7 of FSP S300.8 identifies the Operator-in-Charge (Process Area and Chemistry Area) as controlling remote operations, including operation of the control room and key for Site 300.
COMMUNICATIONS SECTION 4.0				
4.2.1. Emergency Communications Systems	a) Ensure ready notification of workers during routine and emergency conditions.	Yes	FMC	Building intercom, emergency paging system, postings on equipment or facility entrances, or emergency bullhorns are available. An emergency call list is maintained by the Facility Manager. The Site 300 Lightning Detection and Warning System provides direct radio-pager and indirect trunked radio system notification to workers in the CMLS Site 300 Facilities, (Section 3.2.2.3.12, CMELS Site 300 FSP S300.8). Document 22.1, Emergency Preparedness and Response

Conduct of Operations Applicability Matrix

ES&H MANUAL DOCUMENT 3.5 SECTION	REQUISITES FOR SECTION ELEMENTS	APPLICABLE YES/NO	RESPONSIBILITY FOR COMPLIANCE FMC/PMC[1]	COMMENTS AND/OR REFERENCE FOR VERIFICATION OF COMPLIANCE
	b) Emergency communications are regularly tested for functionality.	Yes	FMC/PMC	Plant Engineering conducts routine PM and testing of alarm systems. LLNL Site emergency communications systems are tested daily by the LLNL Alarms Division
4.2.2. Public Address System	a) Public Address system is administratively controlled.	Yes	FMC/PMC	LLNL Alarms Division controls the Site emergency communication system
4.2.3. Contacting Operators	a) Provide functional communication devices (telephones, paging systems) within the facility and immediate area.	Yes	FMC	Telephones throughout occupied facilities, emergency paging system, radio pagers, two-way radios for facility operations staff and electronic mail provide rapid communications. Additionally, the indirect trunked radio system is used in remote locations at Site 300.
	b) Provide safety alarms. Visual alarms should be used in noisy areas where audible alarms may go unnoticed.	Yes	FMC	Malfunctions of the telephones, building paging system, pagers, and electronic mail are infrequent. Telephone, alarms, and radio page systems have either battery or emergency back-up power. ES&H Manual, Document 12.1
	c) Communication systems should be available in remote areas where work is conducted, such as basements, lofts, and equipment rooms.	Yes	FMC	Building intercom and radio page provide coverage in out-of-the-way portions of the facilities. Additionally, the indirect trunked radio system is used in remote locations at Site 300.
	d) As appropriate, provisions should exist for locating key workers during off-hours, and during the workday while they are outside the facility.	Yes	FMC/PMC	Key operational personnel can be reached via radio pager, trunked radio system and government-owned cellular telephone systems. Lists of emergency contact numbers are maintained by the CMELS payroll organizations.
4.2.4. Radios	a) Areas where radios are prohibited should be delineated.	YES	FMC/PMC	Areas where radios are prohibited are posted.

Conduct of Operations Applicability Matrix

ES&H MANUAL DOCUMENT 3.5 SECTION	REQUISITES FOR SECTION ELEMENTS	APPLICABLE YES/NO	RESPONSIBILITY FOR COMPLIANCE FMC/PMC[1]	COMMENTS AND/OR REFERENCE FOR VERIFICATION OF COMPLIANCE
4.2.5. Abbreviations and Acronyms	a) In emergency communications, limit use of abbreviations and acronyms to those in approved LLNL documents.	Yes	FMC/PMC	Some abbreviations and acronyms are used. They are defined in the FSP 300.8. LLNL Alarms Division controls the Site emergency communication system and as a general rule do not use acronyms in emergency communications
4.2.6. Oral instructions and Informal Communications	a) Oral Instructions and Informational Communications should follow the guidance in Section 4.2.6.	Yes	FMC/PMC	Oral instructions involving equipment operations should be clear and concise and should be repeated by the receiver to the extent necessary to ensure instructions are clearly understood.
CONTROL OF ON-SHIFT TRAINING SECTION 5.0				
5.2.1. Adherence to Training Programs	a) Identify tasks requiring OJT.	Yes	PMC	OJT requirements are identified in Document 40.1 (*LLNL Training Program Manual*) and CMLS-330. CMLS-330 requires the RI to ensure required training, including on-the-job training (OJT), is completed and to ensure workers have necessary qualifications. ES&H Document 17.7 requires formal OJT training for explosives handlers.
5.2.2. On-shift Instructor Qualifications	a) Document instructor and evaluator qualifications.	Yes	PMC	Qualifications for OJT training instructors are determined by education, experience, background, subject area knowledge, and the ability to instruct others. AI and RI specify individuals authorized to conduct OJT for specific facilities, equipment, or operations. Completions of formal degree programs are documented in personnel records. Completions of classes during LLNL employment are recorded in LTRAIN. Document 40.1
5.2.3. Qualified Operator Supervision and Control of Trainees	a) Establish protocol for supervision and control of trainees.	Yes	PMC	FSPs, IWS/SPs, and/or IWSs define (as appropriate) conditions under which trainees may be used to support potentially hazardous work activities. The IWS lists names of qualified personnel to do the work activity.

Conduct of Operations Applicability Matrix

ES&H MANUAL DOCUMENT 3.5 SECTION	REQUISITES FOR SECTION ELEMENTS	APPLICABLE YES/NO	RESPONSIBILITY FOR COMPLIANCE FMC/PMC[1]	COMMENTS AND/OR REFERENCE FOR VERIFICATION OF COMPLIANCE
	b) Ensure trainee awareness of hazards and operating limits.	Yes	PMC	CMLS-330 requires the RI to ensure that trainees only work according to existing procedures and IWSs, and that they are aware of operating limits and hazards. CMLS-330 requires the RI to ensure visitors, guests, students, and vendors either have the required training or work under the direct supervision of a qualified worker.
5.2.4. Operator Qualification Program Approval	a) Ensure the appropriate area supervisor has approved the OJT.	Yes	PMC	The RI documents and either provides or approves OJT for personnel working under their direction. This process is reflected in the IWS authorizing the work. Formal OJT programs, such as Explosive Handler Qualifications (e.g. Document 17.7), may substitute for the RI documentation specified above.
5.2.5. Training Documentation	a) Document OJT.	Yes	PMC	OJT training is documented in the Training Qualification Record maintained by the payroll supervisor in accordance with Document 40.1 (*LLNL Training Program Manual*). CMLS-330 defines record keeping requirements for training records.
5.2.6. Suspension of Training	a) Ensure trainees understand their role during abnormal conditions.	Yes	FMC/PMC	CMLS-330 requires the RI to ensure that trainees only work with experienced personnel according to existing procedures, and that they are aware of operating limits and hazards. CMLS-330 requires the host and RI to ensure visitors, guests, students, and vendors either have the required training or are escorted.
5.2.7. Maximum Number of Trainees	a) Establish limits for the number of OJT trainees.	No	NA	CMELS does not limit the number of OJT trainees. OJT requirements are identified in Document 40.1 (*LLNL Training Program Manual*) and CMLS-330 requires the RI to ensure required training, including on-the-job training (OJT) for all trainees, is completed and to ensure workers have necessary qualifications. ES&H Document 17.7 requires formal OJT training for explosives handlers.

Conduct of Operations Applicability Matrix

INVESTIGATION OF ABNORMAL EVENTS SECTION 6.0					
6.2.1. Events Requiring Investigation	a) Identify types of events that require investigation	Yes	FMC/PMC	LLNL ES&H Manual, Document 4.3, (LLNL Implementation Procedure for Reporting Occurrences to the Department of Energy (DOE) Order 231.1A, "Environment, Safety and Health Reporting," and DOE Manual 231.1–2 (*Occurrence Reporting and Processing of Operations Information*).
6.2.2. Investigation Responsibility	a) Identify Event Investigation responsibilities	Yes	FMC/PMC	CMLS-330 requires that the AD utilize the Assurance Manager to ensure that incident response, analysis, and recording conform to requirements of the LLNL *ES&H Manual.* CMLS-322 specifies processes for investigation of abnormal events in accordance with the LLNL ES&H Manual, Document 4.3, (LLNL Implementation Procedure for Reporting Occurrences to the Department of Energy (DOE) Order 231.1A, "Environment, Safety and Health Reporting," and DOE Manual 231.1–2 (*Occurrence Reporting and Processing of Operations Information*).
6.2.3. Investigator Qualification	a) Investigators complete training requirements	Yes	FMC/PMC	ES&H Manual Document 4.6 specifies training requirements.
6.2.4. Information to be Gathered	a) Collect required information	Yes	FMC/PMC	ES&H Manual Document 4.6 specifies investigation procedures.
6.2.5. Event Investigation	a) Conduct structured review of events	Yes	FMC/PMC	CMLS-330 requires that the AD utilize the Assurance Manager to ensure that incident response, analysis, and recording conform to requirements of the LLNL *ES&H Manual.* CMLS-322 specifies processes for investigation of abnormal events in accordance with the LLNL ES&H Manual, Document 4.3, (LLNL Implementation Procedure for Reporting Occurrences to the Department of Energy (DOE) Order 231.1A, "Environment, Safety and Health Reporting," and DOE Manual 231.1–2 (*Occurrence Reporting and Processing of Operations Information*).

Conduct of Operations Applicability Matrix

6.2.6. Investigative Report	a) Prepare investigative reports	Yes	FMC/PMC	CMLS-330 requires that the AD utilize the Assurance Manager to ensure that incident response, analysis, and recording conform to requirements of the LLNL *ES&H Manual.* CMLS-322 specifies processes for investigation of abnormal events in accordance with the LLNL ES&H Manual, Document 4.3, (LLNL Implementation Procedure for Reporting Occurrences to the Department of Energy (DOE) Order 231.1A, "Environment, Safety and Health Reporting," and DOE Manual 231.1–2 (*Occurrence Reporting and Processing of Operations Information*).
6.2.7. Event Training	a) Evaluate events for training benefit and conduct the appropriate training	Yes	FMC/PMC	Need for training is considered as part of the process described in ES&H Manual Document 4.6
6.2.8. Event Trending	a) Patterns of deficiencies should be trended and a report (causes and trends) provided to the management chain.	Yes	PMC	CMS-331 (*Accident/Injury Prevention Program*) defines provisions for reviewing/analyzing safety data within the Directorate. CMLS-305 defines provisions for rolling up data to the Institutional level for trending. Trend analysis requirements are included in CMELS-305, "ES&H Self-Assessment Plan".
	b) Information in the event trending report should be communicated to appropriate facility personnel	Yes	PMC	Reports are provided to FMs per ES&H Manual Document 4.1.
6.2.9. Sabotage	a) Response and investigative procedures for suspected sabotage should include the guidance in Section 6.2.9.	Yes	FMC/PMC	*ES&H Manual* Documents 4.5, 4.6 and 4.7 (*Incidents – Notification, Analysis, and Reporting; Incident Analysis Manual; and ES&H Analysis Methods*) will be followed. CMLS-322 (*Occurrence Reporting Plan*) specifies processes for investigation of abnormal events. ES&H Manual, Document 22.1, Emergency Preparedness

Conduct of Operations Applicability Matrix

NOTIFICATIONS SECTION 7.0				
7.2.1. Notification Procedures	a) Establish notification procedures.	Yes	FMC/PMC	All personnel working in CMELS facilities and personnel working on CMELS activities in non-CMELS facilities and at offsite locations are responsible to notify the Facility Point of Contact (FPOC) and their division management of any unplanned events or unexpected conditions that could potentially be reportable (per CMLS-330 & 322). ES&H Manual, Document 4.3, LLNL Implementation Procedure for Reporting Occurrences to DOE
7.2.2. Notification Responsibility	a) Identify the individual (facility management or program management) responsible for initiating the notification process.	Yes	FMC/PMC	*CMS Site 300 Facility Emergency Self-Help Plan* with attached *CMS Site 300 Employee Emergency Response Self-Help Guide* and CMLS-322 identify notification procedure and reporting chains. All CMELS operations managers (e.g. FMs, DDL/Ops, DAD/Ops, etc.) are required to complete EM2010. Training completions are documented in LTRAIN. ES&H Manual, Document 4.3, LLNL Implementation Procedure for Reporting Occurrences to DOE
7.2.3. Names and Phone Numbers	a) Contact information for occurrence reporting is made available.	Yes	FMC/PMC	*CMS Site 300 Facility Emergency Self-Help Plan* with attached *CMS Site 300 Employee Emergency Response Self-Help Guide* and CMLS-322 identify notification procedure and reporting chains, which includes notification of the Assurance Manager.
7.2.4. Documentation	a) Maintain a formal record of notifications.	Yes	FMC/PMC	*CMS Site 300 Facility Emergency Self-Help Plan* with attached *CMS Site 300 Employee Emergency Response Self-Help Guide* and CMLS-322 identify notification procedure and reporting chains. All CMELS operations managers (e.g. FMs, DDL/Ops, DAD/Ops, etc.) are required to complete EM2010. Training completions are documented in LTRAIN. ES&H Manual, Document 4.3, LLNL Implementation Procedure for Reporting Occurrences to DOE. Formal records of ORPS notifications are maintained by the Institutional Occurrence Reporting Manager.

Conduct of Operations Applicability Matrix

7.2.5. Communication Equipment	a) Maintain communication equipment adequate for notification procedure.	Yes	FMC/PMC	Communication equipment is maintained by the Institution.
CONTROL OF EQUIPMENT AND SYSTEMS STATUS SECTION 8.0				
8.2.1. Status Change Authorization and Reporting	a) Identify equipment and/or systems whose configuration must be maintained.	Yes	FMC/PMC	FSPs identify building safety systems (under Plant Engineering configuration management) and building safety features (under CMELS configuration management). Activity specific controls are identified through the IWS and/or IWS/SP and may require activity-level QA plans in accordance with CMLS-901 (*Quality Assurance Plan*). CMLS-405 (*Configuration Management Plan*) establishes and maintains a level of Configuration Management (CM) control for facilities managed by CMELS. ES&H Manual, Document 41.2, "Configuration Management Program Description,"
	b) Establish a formal mechanism to authorize changes in configuration or status.	Yes	FMC/PMC	An IWS is required for all modifications to CMELS facilities. Facility Point of Contact concurrence is required on all IWSs and Plant Engineering "bridging documents" that would modify a CMELS facility. CMLS-405 documents the requirements that must be followed for modifications to all items under CM. When required, an Explosives Work Permit is used in the authorization process.
	c) Establish a formal mechanism to ensure personnel are kept informed of any changes in the operational status of the equipment or systems.	Yes	FMC/PMC	The IWS process informs of proposed changes. Prior to the initiation of those facility-related changes, the FPOCs contact affected building personnel. For changes to programmatic equipment, the RI contacts those personnel who will be affected.
8.2.2. Equipment and System Alignment	a) Equipment and systems are aligned or checked for proper alignment before operation.	Yes	FMC/PMC	CMLS-330 discusses the work authorization process. The IWS process includes a pre-start review to ensure everything is ready to go. A pre-start checklist can be used to help in this review. The formality of a pre-start review when required is determined by the Work Activity Level and the scope of the work.

Conduct of Operations Applicability Matrix

8.2.3. Equipment Locking and Tagging	a) Lockout and tagout procedures are in place.	Yes	FMC/PMC	Lockout and tagout is implemented through the IWS process in accordance with Document 12.6 of the LLNL *ES&H Manual*. CMELS Facility Operations personnel do not perform lockout & tag.
8.2.4. Operational Limits Compliance	a) Establish administrative controls that document compliance with operating limits.	Yes	FMC/PMC	Facility concurrence on work to be conducted as documented in an IWS, as described in CMLS-330 and *ES&H Manual* Document 2.1, is provided to ensure the activity is within the safety basis envelope of a facility. Authorizing Individuals monitor the work to ensure that hazards are identified, controls are developed and implemented, and that ES&H requirements are met. Where required, equipment run logs document that operating limits are observed, that critical measurement and test equipment is operational, and that routine maintenance and calibrations are conducted.
8.2.5. Equipment Deficiency Identification and Documentation	a) Establish method for identifying, reporting, and documenting equipment deficiencies.	Yes	FMC/PMC	CMLS-305, CMS-306 (*Deficiency Tracking Management Plan*) and CMLS-322 (*Occurrence Reporting Plan*) define processes to regularly self assess operations, facilities, activities and to report deficiencies. Other feedback and improvement techniques are defined in CMLS-330. Scheduled inspections/self-assessments are used in addition to employee reports and may initiate ITS deficiencies. Suspect Counterfeit Inspections are performed every three years. ES&H Manual, Document 4.2, "ES&H Issues and Deficiencies Management
8.2.6. Work Authorization and Documentation	a) Written authorization should be obtained for all shift activities (including modifications or maintenance) on equipment or systems important to safety, that affects operations, or that changes control indications or alarms.	Yes	FMC/PMC	Work on SSCs is performed under an authorized IWS in accordance with CMLS-405 (*Directorate Configuration Management Plan*). ES&H Manual, Document 2.1, "General Worker Responsibilities and Integrated Safety Management ", and Document 2.2, "Managing ES&H for LLNL Work"

Conduct of Operations Applicability Matrix

8.2.7. Equipment Post-Maintenance Testing and Return to Service	a) Establish post-modification/maintenance testing procedures for equipment or systems important to safety.	Yes	FMC/PMC	Plant Engineering maintains configuration management of required building safety systems and identifies post maintenance testing requirements. Configuration management on other building safety features is the responsibility of the CMELS ADFM as per CMLS-405. Configuration management on activity-specific safety equipment (interlocks, etc) is the responsibility of the RI.
8.2.8. Alarm Status	a) Ensure there is a clear indication/understanding of alarm status.	Yes	FMC/PMC	CMELS FSPs discuss building alarms. Activity-specific alarms are defined in applicable IWS/SPs. LLNL *ES&H Manual*; Document 12.1 defines process for alarm systems.
8.2.9. Temporary Modification Control	a) Establish control for installing temporary modifications to SSCs under configuration management.	Yes	FMC/PMC	Modifications to building safety systems require an IWS with facility concurrence. ES&H Manual, Document 51.3 ES&H Manual, Document 3.1 ES&H Manual, Document 12.1
8.2.10. Distribution and Control of Equipment and System Document	a) Establish system for document control and distribution for equipment or systems under configuration management.	Yes	FMC/PMC	The IWS system maintains control of the IWS documents. CMLS-904 (*Control of Unclassified Management Documents*) contains CMELS guidance on document control.
LOCKOUTS AND TAGOUTS SECTION 9.0				
9.2.1. Lockout/Tagout Use	a) Work supervisors of LLNL and subcontract workers shall satisfy LLNL's lockout and tag program requirements described in Document 12.6.	Yes	FMC/PMC	Lockout and tagout is implemented through the IWS process in accordance with Document 12.6 of the LLNL *ES&H Manual*.
9.2.2. Lockout and Tagout Implementation	a) Lockout/Tagout implementation shall be in accordance with Document 12.6.	Yes	FMC/PMC	Lockout and tagout is implemented through the IWS process in accordance with Document 12.6 of the LLNL *ES&H Manual*.

Conduct of Operations Applicability Matrix

	b) When appropriate, lockout and tag requirements are incorporated into (or referenced in) FSPs, IWS/SPs, or SOPs.	Yes	FMC/PMC	ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program
9.2.3. Protective Materials and Hardware	a) Adequate protective materials and hardware for lockout and tagout are provided.	Yes	FMC/PMC	ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program
9.2.4. Lockout/Tagout Program	a) A lockout/tagout program has been established.	Yes	FMC/PMC	Lockout and tagout is implemented through the IWS process in accordance with Document 12.6 of the LLNL *ES&H Manual*.
9.2.5. Procedures for Lockout/Tagout	a) Lockout/tagout procedures are developed, documented, validated, and utilized.	Yes	FMC/PMC	ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program
9.2.6. Application of Lockout/Tagout	a) Established lockout/tagout procedures cover the elements and actions described in Section 9.2.6 and Document 12.6.	Yes	FMC/PMC	ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program
9.2.7. Testing or Positioning of Equipment or Components	a) For temporary removal of Lockout/Tagout devices, follow the actions described in Section 9.2.7.	Yes	FMC/PMC	ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program
9.2.8. Periodic Inspections	a) Conduct periodic inspections to determine adequacy of lockout/tagout program, as described in Document 12.6.	Yes	FMC/PMC	Lockout and tagout is implemented through the IWS process in accordance with Document 12.6 of the LLNL *ES&H Manual*.
9.2.9. Caution Tags	a) Use of caution tags should follow protocol described in Section 9.2.9 and as described in Document 12.6.	Yes	FMC/PMC	ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program
9.2.10. Training and Communication	a) Personnel shall have training consistent with Section 9.2.10.	Yes	FMC/PMC	ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program

Conduct of Operations Applicability Matrix

9.2.11. Lockout or Tagout Implementation	a) Only authorized, qualified personnel accomplish lockout/tagout, as described in Document 12.6.	Yes	FMC/PMC	ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program
9.2.12. Notification of Personnel	a) Personnel affected by the lockout/tagout application or removal are notified, as described in Document 12.6.	Yes	FMC/PMC	ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program
9.2.13. Outside Contractors	a) Outside contractors adhere to lockout/tagout procedures as described in Document 12.6.	Yes	FMC/PMC	ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program
9.2.14. Group Lockouts or Tagouts	a) Adhere to group lockout/tagouts procedures as described in Document 12.6.	Yes	FMC/PMC	ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program
9.2.15. Shift or Personnel Changes	a) Adhere to procedures for transferring locks and tags when personnel or shifts change, as described in Document 12.6.	Yes	FMC/PMC	ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program
INDEPENDENT VERIFICATION SECTION 10.0				
10.2.1. Components Requiring Independent Verification	a) Identify components/systems requiring independent verification whose improper positioning could result in an impact to health, safety, the environment, or significant impact to programs.	Yes	FMC/PMC	Critical common facility and institutional equipment and systems capable of significant impact to ES&H or the programs are identified in the FSP as Building Safety Systems whose proper function is verified by other organizations. Facility safety features are identified in the FSP, and are managed in accordance with CMLS-405. Critical programmatic equipment and systems capable of significant impacts to ES&H or programs and requiring independent verification are identified in IWS/SPs or operating procedures. Critical facility and programmatic equipment employ interlocks and alarms to verify proper operation. Independent verification is not required. Interlocks are verified quarterly.

Conduct of Operations Applicability Matrix

10.2.2. Occasions Requiring Independent Verification	a) Ensure that independent verification is conducted and documented following the guidance in Section 10.2.2.	Yes	FMC/PMC	Interlock checks are documented quarterly Prestart reviews verify that all systems are functional and ready to go and documented as part of the IWS process.
10.2.3. Verification Techniques	a) Ensure that verification techniques are followed using the guidance in Section 10.2.3.	Yes	FMC/PMC	Verification follows the guidance in Section 10.2.3
LOGKEEPING SECTION 11.0				
11.2.1. Establishment of Operating Logs	a) Identify operations, areas, or equipment where formal record-keeping is required, and assign logbook-keeping responsibilities.	Yes	FMC/PMC	Some programs may require logbooks as part of their QA program. These logbooks are managed per the requirements in the respective ALQAP. Logbooks are required for cranes, facility-related oxygen deficiency monitors, forklift operations, explosive inventories, radiation area monitors, and emergency eyewash/shower testing in CMELS facilities. Site 300 Explosives Waste Storage Facility (EWSF) and Explosives Waste Treatment Facility (EWTF) permits require that logbooks be maintained. Logbooks are required for pressing, drying, and radiography operations, and for quarterly interlock checks at Site 300.
11.2.2. Timeliness of Recordings	a) Ensure information is added in a timely manner.	Yes	FMC/PMC	Some programs may require logbooks as part of their QA program. These logbooks are managed per the requirements in the respective ALQAP. Logbooks for cranes, oxygen deficiency monitors, forklifts, and emergency eyewash/showers, pressing, drying, and radiography operations, and for quarterly interlock checks will be completed in accordance with the requirements listed in the applicable ES&H Manual sections and CMLS-305. Site 300 Explosives Waste Storage Facility (EWSF) and Explosives Waste Treatment Facility (EWTF) logbooks are managed per the permit requirements.

Conduct of Operations Applicability Matrix

11.2.3. Information to be Recorded	a) Specify the type of information to be entered in the logbook, using the guidance in Section 11.2.3.	Yes	FMC/PMC	Logbooks are kept in each process facility and include information as specified in the facility or process operating procedure. Some programs may require logbooks as part of their QA program. These logbooks are managed per the requirements in the respective ALQAP. Logbooks for cranes, oxygen deficiency monitors, forklifts, and emergency eyewash/showers, pressing, drying, and radiography operations, and for quarterly interlock checks will be completed in accordance with the requirements listed in the applicable ES&H Manual sections. Site 300 Explosives Waste Storage Facility (EWSF) and Explosives Waste Treatment Facility (EWTF) logbooks are managed per the permit requirements.
11.2.4. Legibility	a) Logbook entries should be made in a legible and easily understood manner.	Yes	FMC/PMC	Some programs may require logbooks as part of their QA program. These logbooks are managed per the requirements in the respective ALQAP. Site 300 Explosives Waste Storage Facility (EWSF) and Explosives Waste Treatment Facility (EWTF) permits require that logbooks be maintained. The permits contain specific requirements for legible entries in all logbooks. Logbooks are periodically reviewed and signed by the Facility Manager.
11.2.5. Corrections	a) Follow Section 11.2.5 for correcting erroneous entries.	Yes	FMC/PMC	Some programs may require logbooks as part of their QA program. These logbooks are managed per the requirements in the respective ALQAP. Site 300 Explosives Waste Storage Facility (EWSF) and Explosives Waste Treatment Facility (EWTF) permits require that logbooks be maintained. The permits contain specific requirements for correcting erroneous entries by drawing a single line through the incorrect information, entering, initialing and dating the correct information. Logbooks are periodically reviewed and signed by the Facility Manager.

Conduct of Operations Applicability Matrix

11.2.6. Log Review	a) Regularly review the logbook for conformance with logbook-keeping requirements.	Yes	FMC/PMC	Some programs may require logbooks as part of their QA program. These logbooks are managed per the requirements in the respective ALQAP. Work supervisors directly responsible for logbook entries regarding cranes, oxygen deficiency monitors, forklifts, eyewashes and showers, pressing, drying, and radiography operations, and for quarterly interlock check work areas will regularly review logbooks in their areas during informal self-assessments to check for conformance with logbook-keeping requirements and to spot trends that may indicate degrading operations so that corrective action can be taken before an emergency occurs. Site 300 Explosives Waste Storage Facility (EWSF) and Explosives Waste Treatment Facility (EWTF) permits require that logbooks be maintained. The permits contain specific requirements for periodic reviews of all logbooks. Logbooks are periodically reviewed and signed by the Facility Manager.
11.2.7. Care and Keeping of Logs	a) Maintain logbooks in a retrievable manner.	Yes	FMC/PMC	Some programs may require logbooks as part of their QA program. These logbooks are managed per the requirements in the respective ALQAP. Logbooks for cranes, oxygen deficiency monitors, forklifts, eyewashes and showers, pressing, drying, and radiography operations, and for quarterly interlock checks will be protected from fire, water, or other types of damage. Completed logbooks will be retained in a retrievable manner for time periods specified by the facility manager or program. Site 300 Explosives Waste Storage Facility (EWSF) and Explosives Waste Treatment Facility (EWTF) permits require that logbooks be maintained. The permits contain specific requirements for maintaining the logbooks. Logbooks are maintained in Facility files.
OPERATIONS TURNOVER SECTION 12.0				
12.2.1. Turnover Checklists	a) Identify personnel (by position), that require a shift turnover checklist.	No	NA	Shifts are not utilized in CMELS S300 facilities

Conduct of Operations Applicability Matrix

	b) Develop shift turnover checklist(s).	No	NA	Shifts are not utilized in CMELS S300 facilities
12.2.2. Document Review	a) Oncoming operators and supervisors review documents specified on their checklists.	No	NA	Shifts are not utilized in CMELS S300 facilities
12.2.3. Control Panel Walkdown	a) Conduct control panel walkdowns as appropriate.	No	NA	Shifts are not utilized in CMELS S300 facilities
12.2.4. Discussion and Exchange of Responsibility	a) Conduct discussion and exchange of responsibility at shift change.	No	NA	Shifts are not utilized in CMELS S300 facilities
12.2.5. Shift Crew Briefing	a) Operations supervisors conduct crew briefing as required.	No	NA	Shifts are not utilized in CMELS S300 facilities
12.2.6. Reliefs Occurring During the Shift	a) Specify and document shift turnover responsibilities.	No	NA	Shifts are not utilized in CMELS S300 facilities
OPERATIONS ASPECTS OF FACILITY CHEMISTRY AND UNIQUE PROCESSES SECTION 13.0				
13.2.1. Operator Responsibilities	a) Identify the samples requiring analysis and analysis to be performed, and define the range of acceptable results.	Yes	PMC	There are no routine programmatic or facility-related sampling and analyzing efforts of operating parameters. Some institutionally required chemical analysis to protect ES&H is performed by EPD and the ES&H Team. Some operations (e.g. scale-up synthesis of a new HE) will require sampling and analysis. This sampling, analysis and acceptability of results is documented in a Peer Review. Some sampling will be performed in the Forensics Receival Facility.

Conduct of Operations Applicability Matrix

	b) Ensure that workers involved in sampling and analyses understand their responsibilities.	Yes	PMC	The IWSs (with associated Peer review if applicable) and FSPs that control these activities detail the workers responsibilities.
13.2.2. Operator Knowledge	a) Ensure workers have the necessary training and equipment to carry out their specified tasks.	Yes	PMC	The IWSs (with associated Peer review if applicable) and FSPs that control these activities detail the training and equipment requirements.
13.2.3. Operator Response to Process Problems	a) Respond to out-of-range results or process parameters.	Yes	PMC	The IWSs (with associated Peer review if applicable) and FSPs that control these activities detail the out-of-range response.
13.2.4. Communication Between Operations and Process Personnel	a) Maintain communication between operations and process personnel.	Yes	FMC/PMC	Personnel are in two way communication
REQUIRED READING SECTION 14.0				
14.2.1. File Index	a) Identify documents to be included in each facility's required reading program.	Yes	FMC/PMC	FSPs are the only facility-level document identified as required reading; all residents must read the sections applicable to their work. Workers are required to read the IWSs for their work. Each IWS identifies any supplemental required reading for each activity (e.g. SP, Hazard Assessment and Control, Engineering Safety Note, etc.).
14.2.2. Reading Assignments	a) Identify which documents must be read by individuals (by position).	Yes	FMC/PMC	FSPs are the only facility-level document identified as required reading. Workers are required to read the IWSs for their work. Each IWS identifies any supplemental required reading for each activity (e.g. SP, Hazard Assessment and Control, Engineering Safety Note, etc.).
	b) Required reading documents should be available in the facility or in the program area.	Yes	FMC/PMC	Documents identified in the IWSs are either uploaded to the IWS or are maintained by the RI for that activity.

Conduct of Operations Applicability Matrix

14.2.3. Required Dates for Completion of Reading	a) Designate completion dates for required reading.	Yes	FMC/PMC	The CMELS Site 300 Facility manager maintains records that document that workers have completed reading the FSP. Each RI verifies that their employees complete the required reading for their activity. Each employee will electronically sign the IWSs for any IWS/SPs under which they work.
14.2.4. Documentation	a) Provide a system for documenting that workers have completed the required reading.	Yes	FMC/PMC	The CMELS Site 300 Facility manager maintains records that document that workers have completed reading the FSP. Each RI verifies that their employees complete the required reading for their activity. Each employee will electronically sign the IWSs for any IWS/SPs under which they work.
14.2.5. Review	a) Regularly review and update the required reading list.	Yes	FMC/PMC	FSPs are reviewed and re-issued at least every three years.
TIMELY ORDERS TO OPERATORS SECTION 15.0				
15.2.1. Content and Format	a) Describe how special instructions (short and long term) will be developed for communication to workers/operators.	Yes	FMC/PMC	Instructions for work activities are identified through the IWS for programmatic work activities. Facility instructions (such as shut down of hoods or retention tanks) are communicated by the Facility Point of Contact to building residents through e-mail, building announcements, paper postings, etc. Special instructions to programmatic workers are communicated directly by managers and supervisors via e-mail, telephone, and/or personal communication.
	b) Document how orders that are issued to supplement operating procedures will be incorporated.	Yes	FMC/PMC	Instructions for work activities are identified through the IWS for programmatic work activities. Facility instructions (such as shut down of hoods or retention tanks) are communicated by the Facility Point of Contact to building residents through e-mail, building announcements, paper postings, etc. Special instructions to programmatic workers are communicated directly by managers and supervisors via e-mail, telephone, and/or personal communication.
15.2.2. Issuing, Segregating, and Reviewing Orders	a) Describe process for issuing Shift Orders/Instructions to workers/operators.	Yes	FMC/PMC	Instructions are issued through e-mail, building announcements, phone calls, alpha-numeric pagers, paper postings, in-person verbally, etc.

Conduct of Operations Applicability Matrix

	b) Describe process for issuing Standing Orders/Instructions to workers/operators.	Yes	FMC/PMC	Standing orders are documented and issued in the work authorization documents (IWS's, PWS's, Service Work Authorization docs, etc)
15.2.3. Removal of Orders	a) Remove/cancel expired or outdated orders.	Yes	FMC/PMC	Cancellation of standing orders are documented and issued in the work authorization documents (IWS's, PWS's, Service Work Authorization docs, etc). Cancellation of shift orders is made through e-mail, building announcements, phone calls, alpha-numeric pagers, paper postings, in-person verbally, etc.
OPERATIONS PROCEDURES SECTION 16.0				
16.2.1. Procedure Development	a) Identify equipment/operations that require operating procedures.	Yes	FMC/PMC	The need for operating procedures in accordance with Document 3.4 of the *ES&H Manual* is determined through the IWS process. Equipment/systems that need operating procedures from a programmatic impact standpoint are managed in accordance with CMLS-901. Instructions for equipment operation can also be identified through the IWS for programmatic and facility equipment.
16.2.2. Procedure Content	a) Ensure that the content of operating procedures conforms to prescribed guidelines	Yes	FMC/PMC	Document 3.4 of the *ES&H Manual* defines requirements for operating procedures. CMELS-904 (*Control of Unclassified Management Policies, Plans and Procedures*) defines CMELS requirements for work procedures. The Site 300 Facility Manager and Area Supervisors review FSP S300.8 annually in order to ensure the content of the Operating Procedures is adequate and correct.
16.2.3. Procedure Changes and Revisions	a) Specify a method for initiating temporary and permanent changes to operating procedures	Yes	FMC/PMC	Document 3.4 of the *ES&H Manual* defines requirements for operating procedures. CMELS-904 defines CMELS requirements for work procedures. The Site 300 Facility Manager and Area Supervisors review FSP S300.8 annually in order to ensure the content of the Operating Procedures is adequate and correct.

Conduct of Operations Applicability Matrix

16.2.4. Procedure Approval	a) Identify procedure approval protocol.	Yes	FMC/PMC	Document 3.4 of the *ES&H Manual* defines requirements for operating procedures. CMELS-904 defines CMELS requirements for work procedures. The Site 300 Facility Manager and Area Supervisors review FSP S300.8 annually in order to ensure the content of the Operating Procedures is adequate and correct.
16.2.5. Procedure Review	a) Identify procedure review protocol.	Yes	FMC/PMC	Document 3.4 of the *ES&H Manual* defines requirements for operating procedures. CMELS-904 defines CMELS requirements for work procedures. The Site 300 Facility Manager and Area Supervisors review FSP S300.8 annually in order to ensure the content of the Operating Procedures is adequate and correct.
	b) Ensure that new operating procedures and those undergoing major revision are verified for correctness and operationally tested prior to final approval and use.	Yes	FMC/PMC	Document 3.4 of the *ES&H Manual* defines requirements for operating procedures. CMELS-904 defines CMELS requirements for work procedures. Additionally, new and revised procedures involving explosives are reviewed using a formal Peer Review process as described in section 3.7.15 of FSP S300.8, in compliance with the DOE Explosives Safety Manual (DOE/EV/06194)
	c) Review operating procedures to ensure they are kept current.	Yes	FMC/PMC	Document 3.4 of the *ES&H Manual* defines requirements for operating procedures. In accordance with the *ES&H Manual*, FSPs are updated at least every three years (the sections applying to explosives safety controls are reviewed annually) and IWS/SPs are reviewed at least annually. CMELS-904 defines CMELS requirements for work procedures.
16.2.6. Procedure Availability	a) Copies of applicable operating procedures are available and controlled.	Yes	FMC/PMC	Document 3.4 of the *ES&H Manual* defines requirements for operating procedures. CMELS-904 defines CMELS requirements for work procedures. RIs routinely upload current copies of relevant procedures and safety plans to their IWSs.

Conduct of Operations Applicability Matrix

16.2.7. Procedure Use	a) Operators/Workers should be instructed in the use of procedures.	Yes	FMC/PMC	Document 3.4 of the *ES&H Manual* defines requirements for operating procedures. CMELS-904 defines CMELS requirements for work procedures. RIs routinely upload current copies of relevant procedures and safety plans to their IWSs. Activity Responsible Individuals are responsible for ensuring that workers are trained in the proper use of applicable procedures.
OPERATOR AID POSTINGS SECTION 17.0				
17.2.1. Operator Aid Development	a) Identify and maintain operator aids that must be controlled.	No	NA	Operator aids whose accuracy is critical to operating a system or piece of equipment so that it does not produce a significant impact to health, safety, the environment, or programs are not used in these facilities.
17.2.2. Approval	a) Identify the individual responsible for approving operator aids.	No	NA	Operator aids whose accuracy is critical to operating a system or piece of equipment so that it does not produce a significant impact to health, safety, the environment, or programs are not used in these facilities.
17.2.3. Posting	a) Ensure that operator aids are posted so that they do not obscure or interfere with instruments or controls.	No	NA	Operator aids whose accuracy is critical to operating a system or piece of equipment so that it does not produce a significant impact to health, safety, the environment, or programs are not used in these facilities.
	b) Ensure that operator aids are legible and posted as close as practical to the system or equipment with which they are associated.	No	NA	Operator aids whose accuracy is critical to operating a system or piece of equipment so that it does not produce a significant impact to health, safety, the environment, or programs are not used in these facilities.

Conduct of Operations Applicability Matrix

17.2.4. Use of Operator Aids	a) Operator aid developers and users should understand their purpose (e.g. convenience, not requirement, supplement to approved procedures) and limitation (not used in lieu of approved procedure)	No	NA	Operator aids whose accuracy is critical to operating a system or piece of equipment so that it does not produce a significant impact to health, safety, the environment, or programs are not used in these facilities.
17.2.5. Documentation	a) Maintain a listing of all approved operator aids.	No	NA	Operator aids whose accuracy is critical to operating a system or piece of equipment so that it does not produce a significant impact to health, safety, the environment, or programs are not used in these facilities.
17.2.6. Review	a) Ensure that operator aids are regularly reviewed to verify they are current and appropriate.	No	NA	Operator aids whose accuracy is critical to operating a system or piece of equipment so that it does not produce a significant impact to health, safety, the environment, or programs are not used in these facilities.
EQUIPMENT AND PIPING LABELING SECTION 18.0				
18.2.1. Components Requiring Labeling	a) Identify and maintain a listing of equipment and piping that should be labeled in accordance with section 18.2.1.	Yes	FMC/PMC	Plant Engineering Standards PEL-M-11009, (Rev. G or latest revision) for equipment, and PEL-M-02650, (Rev. A or latest revision) for piping and valve identification.
18.2.2. Label Information	a) Use the Plant Engineering Department standards for label requirements and abbreviations.	Yes	FMC/PMC	Plant Engineering Standards PEL-M-11009, (Rev. G or latest revision) for equipment, and PEL-M-02650, (Rev. A or latest revision) for piping and valve identification.
	b) Ensure workers are trained or instructed before performing maintenance on labeled equipment.	Yes	FMC/PMC	Plant Engineering Standards PEL-M-11009, (Rev. G or latest revision) for equipment, and PEL-M-02650, (Rev. A or latest revision) for piping and valve identification.

Conduct of Operations Applicability Matrix

18.2.3. Label Placement	a) Use Plant Engineering Standards PEL-M-11009, (Rev. G or latest revision) (for equipment) and PEL-M-02650, (Rev. A or latest revision) (for piping and valve identification) for label placement.	Yes	FMC/PMC	Plant Engineering Standards PEL-M-11009, (Rev. G or latest revision) for equipment, and PEL-M-02650, (Rev. A or latest revision) for piping and valve identification.
18.2.4. Replacing Labels	a) Ensure processes (e.g. post-maintenance tests, lineup sheets, etc.) include provisions to check for labels that are missing, damaged or have incorrect information and new labels are promptly provided.	Yes	FMC/PMC	CMELS-305 (*ES&H Self Assessment Plan*).